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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/257,506	02/25/1999	TATSUYA MATSUMURA	50073-019	2315

20277 7590 02/26/2004  
MCDERMOTT WILL & EMERY  
600 13TH STREET, N.W.  
WASHINGTON, DC 20005-3096

EXAMINER

NELSON, ALECIA DIANE

ART UNIT	PAPER NUMBER
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2675

DATE MAILED: 02/26/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/257,506

Applicant(s)

MATSUMURA ET AL.

Examiner

Alecia D. Nelson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-5 and 7-13 is/are rejected.
- 7) ☐ Claim(s) 2 and 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. ***Claims 1, 3-5, 7, and 8*** are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujisawa et al. (U.S. Patent No. 5,038,139) in view of Jeong et al. (U.S. Patent No. 6,144,242).

With reference to **claims 1, 3-5, 7, and 8**, Fujisawa et al. teaches a half tone display driving circuit for a liquid crystal matrix panel, wherein due to generated noise due to simultaneous switching of adjacent column signals is suppressed (see column 1,

lines 18-24). The method of which voltages of adjacent column driving signals (19) change to produce rise edge and fall edge at the same timing, respectively, whereby noises induced in row driving signals (21) can be cancelled to eliminate or suppress a decrease in brightness of the display (see column 10, lines 45-55).

Even though Fujisawa et al. identifies the problem of noise generated by the column and row driving signals, which causes a decrease in brightness of the display, there fails to be any teaching that the noise is suppressed by delaying the driving signals.

Jeong et al. teaches electronic and computer technology wherein large amounts of data required for data communications in intensive data consuming systems using graphical or video information, multiple input-output channels, and the like, wherein circuitry for is used for driving signals onto a communication line in order to reduce noise in the signal transmission. Jeong et al. teaches the usage controllable delays, wherein data signals ( $d_0(t)$ ) are digital and are synchronized in that they each may have transitions only at periodic points in time. However instead of the transitions being synchronized, they are slightly out-of-synch with one another. Thereby, each of the controlled intervals of time are significantly less in magnitude and the controlled intervals of time are generally different in length from each other such that the transitions of the various signals are generally slightly out-of-sync (see column 2, lines 45-65).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to allow for delay in the time lengths of the data signals, as taught

by Jeong et al, wherein the rate of delay of the data signals are at controlled intervals, to be used in a liquid crystal display system which has a need for the amount of noise generated to be reduced in a system similar to that which is taught by Fujisawa et al. By allowing the usage of the circuitry of Jeong et al. in the LCD of Fujisawa et al. the LCD is capable of displaying high quality images without a decrease in brightness by reducing EMI without significantly impacting on the performance of the liquid crystal display.

3. **Claims 9-13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimamoto (U.S. Patent No. 6,147,672) in view of Jeong et al.

With reference to **claims 9-13**, Shimamoto teaches a driving method wherein a display controller (1) outputs digital display signals (6-bit RGB signals) to be displayed on a flat panel display such as a liquid crystal display device (see column 5, lines 46-49), which are transferred from a display timing circuit (17) to a TFT drive circuit (57, 59) for driving a LCD panel (see column 6, lines 32-37).

Even though Shimamoto teaches that it is necessary to slow down the transfer of display data (see column 1, lines 35-49) it is not disclosed the usage of a delay unit provided in the display timing control circuit for delaying the transfer timing between one bit unit and another.

Jeong et al. teaches electronic and computer technology wherein large amounts of data required for data communications in intensive data consuming systems using

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graphical or video information, multiple input-output channels, and the like, wherein circuitry for is used for driving signals onto a communication line in order to reduce noise in the signal transmission. Jeong et al. teaches the usage controllable delays, wherein data signals ( $d_0(t)$ ) are digital and are synchronized in that they each may have transitions only at periodic points in time. However instead of the transitions being synchronized, they are slightly out-of-synch with one another. Thereby, each of the controlled intervals of time are significantly less in magnitude and the controlled intervals of time are generally different in length from each other such that the transitions of the various signals are generally slightly out-of-sync (see column 2, lines 45-65).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to allow for delay in the transfer of the data signals, as taught by Jeong et al, to be used in a liquid crystal display system which has a need to slow down the transfer in order for the amount of noise generated to be reduced in a system similar to that which is taught by Shimamoto. Therefore, by allowing the usage of the circuitry of Jeong et al. in the LCD timing controller of Shimamoto, the LCD is capable of displaying high quality color images without a decrease in brightness by reducing EMI, and in doing without significantly impacting on the performance of the liquid crystal display.

***Allowable Subject Matter***

4. ***Claims 2 and 6*** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alecia D. Nelson whose telephone number is (703) 305-0143. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras can be reached on (703) 305-9720. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-2600.

  
STEVEN SARAS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600

adn/And  
~~November 26, 2003~~  
Feb. 24